

IN THE SPECIFICATION:

Page 3, delete paragraph [0011] and replace with the following new paragraph:

[0011 ] For the sake of simplicity, the projection system may hereinafter be referred to as the "lens"; however, this term should be broadly interpreted as encompassing various types of projection system, including refractive optics, reflective optics, and catadioptric systems, for example. The radiation system may also include components operating according to any of these design types for directing, shaping or controlling the projection beam of radiation, and such components may also be referred to below, collectively or singularly, as a "lens". Further, the lithographic apparatus may be of a type having two or more substrate tables (and/or two or more mask tables). In such "multiple stage" devices the additional tables may be used in parallel, or preparatory steps may be carried out on one or more tables while one or more other tables are being used for exposures. Dual stage lithographic apparatus are described, for example, in ~~US 5,969,441~~ U.S. Patent 5,969,441 and ~~WO 98/40791~~ U.S. Patent 6,262,796, incorporated herein by reference.

Page 8, delete paragraph [0047] and replace with the following new paragraph:

[0047] The second and third positioning means may be constructed so as to be able to position their respective substrate tables WTa, WTb over a range encompassing both the exposure station under projection system PL and the measurement station under the measurement system AB. Alternatively, the second and third positioning means may be replaced by separate exposure station and measurement station positioning systems for positioning a substrate table in the respective exposure stations and a table exchange means for exchanging the substrate tables between the two positioning systems. Suitable positioning systems are described, inter alia, in ~~WO 98/28665~~ and ~~WO 98/40791~~ U.S. Patent 6,262,796 mentioned above. It should be noted that a lithography apparatus may have multiple exposure stations and/or multiple measurement stations and that the numbers of measurement and exposure stations may be different than each other and the total number of stations need not equal the number of substrate tables. Indeed, the principle of separate exposure and measurement stations may be employed even with a single substrate table.

Page 10, delete paragraph [0055] and replace with the following new paragraph:

[0055] Simultaneously with the measurement of the vertical position of a physical reference surface by the level sensor LS, the vertical position of the substrate table is measured using the Z-interferometer, ZIF. The Z-interferometer may, for example, be part of a three, five or six-axis interferometric metrology system such as that described in ~~WO 99/28790 or WO 99/32940~~ U.S. Patents 6,020,964, and 6,208,407, which documents are incorporated herein by reference. The Z-interferometer system preferably measures the vertical position of the substrate table at a point having the same position in the XY plane as the calibrated measurement position of the level sensor LS. This may be done by measuring the vertical position of two opposite sides of the substrate table WT (WTa or W WTb at points in line with the measurement position of the level sensor and interpolating/modeling between them. This ensures that, in the event that the substrate table is taped out of the XY plane, the Z-interferometer measurement correctly indicates the vertical position of the substrate table under the level sensor.

Page 11, delete paragraph [0058] and replace with the following new paragraph:

[0058] As illustrated in Figure 4, once the reference plane has been established, the substrate table is moved so that the wafer surface is scanned underneath the level sensor to make the height map. The vertical position of the wafer surface and the vertical position of the substrate table are measured at a plurality of points of known XY position and subtracted from each other to give the wafer height at the known XY positions. These wafer height values form the wafer height map which can be recorded in any suitable form. For example, the wafer height values and XY coordinates may be stored together in so-called indivisible pairs. Alternatively, the points at which wafer height values are taken may be predetermined, e.g. by scanning the wafer along a predetermined path at a predetermined speed and making measurements at predetermined intervals, so that a ~~simple~~ sample list or array of height values (optionally together with a small number of parameters defining the measurement pattern and/or a starting point) may suffice to define the height map.

Page 14, delete paragraph [0067] and replace with the following new paragraph:

[0067] The TIS surface may additionally carry reference markers whose position is detected using a through-the-lens TTL alignment system to align the substrate table to the mask. Such an alignment system is described in ~~EP 0 467 445 A~~ U.S. Patent 5,481,362, incorporated herein by reference, for example. Alignment of individual exposure areas can also be carried out, or may be obviated by an alignment procedure carried out at the measurement stage to align the exposure areas to the reference markers on the substrate table. Such a procedure is described in ~~EP 0 906 590 A~~ U.S. Patent 6,297,876, incorporated herein by reference. for example.